



CITY OF COLUMBUS

Requests Proposals For

FIBER OPTIC FACILITIES CONSTRUCTION: 10th STREET & COLUMBUS UTILITIES

Scaled Bid Deadline:
6/03/2008

Table of Contents

1. General Instructions	3
1.1 General Invitation	3
1.2 Submittal Procedure.....	4
1.3 Additional Information & Questions	5
1.4 Addenda & Modifications.....	5
1.5 Examination of Documents & Requirements	6
1.6 Evaluation and Selection Process	6
1.7 Post-Proposal Discussions with Respondent	7
1.8 Terms, Conditions, Limitations & Exceptions	7
1.9 Schedule.....	8
2. Proposal Format & Required Content.....	10
2.1 Proposal Format	10
2.2 Required Content	10
3. Requirements	16
3.1 10 th St. Innerduct Construction	16
3.2 10 th St. Fiber Services & Management	17
3.3 Columbus Utilities Fiber Construction	17
3.4 Fiber Optic Cable Specifications	19
3.5 Conduit & Innerduct Specifications.....	19
3.6 Splicing & Termination	20
3.7 Testing.....	21
3.8 Documentation.....	21
3.9 Schedule.....	22
Exhibit A. Company References.....	23
Appendix A. Columbus Utilities Photographs.....	24

1. General Instructions

1.1 General Invitation

The City of Columbus hereby invites Respondents to submit written proposals for:

1. The placement of fiber optic cable and innerduct facilities within the Greater Columbus Conduit System along 10th St. and north up McClure Rd., as well as
2. The construction of buried fiber optic cable and conduit facilities from Columbus Utilities to Smithville Digital fiber optic facilities located in the Greater Columbus Conduit System handhole on McClure Rd.

Proposals are solicited in accordance with the terms, conditions and instructions set forth in this RFP.

All materials related to the RFP will be available on the World Wide Web at <http://columbus.in.gov/TAC>.

In the event a Respondent does not have download capability, all materials may be obtained from the City of Columbus Clerk Treasurer, located at City Hall, 123 Washington Street, Columbus, IN 47201.

Respondent must submit any questions concerning the RFP no later 5/16/2008 at 4:00 PM EST. Responses to Respondent questions will be posted to <http://columbus.in.gov/TAC> no later than 5/20/2008. The City of Columbus Clerk Treasurer will receive proposals at City Hall, 123 Washington Street, Columbus, IN 47201 until 6/3/2008 at 10:00 AM. No proposals will be accepted after the stated deadline.

The City of Columbus reserves the right to reject any or all proposals or to accept any proposal or portion of a proposal deemed to be in the City's best interest.

The City of Columbus reserves the right to reject any and all bids, to reject bids that do not meet the qualifications outlined in the RFP or any Notice to Bidders and to waive any formalities or irregularities in the bidding process or in any proposal. The City further reserves the right to reject all proposals should the City determine, in the opinion of TAC, based on the proposals received, that the contemplated cost of the project is not economically feasible and/or in the best interests of the City. Failure to follow the instructions detailed in the RFP may disqualify your proposal.

Proposals must be in a sealed envelope.

In addition to any terms and conditions set forth herein, the RFP process will also be subject to and include any additional information included in a Notice to Bidders to be published for this project.

1.2 Submittal Procedure

1. Respondent must submit nine (9) copies of its proposal, plus one (1) printed original, signed in ink, plus one (1) CD-ROM or DVD-ROM including a PDF version of its proposal, in a sealed envelope. Respondent may elect to either personally deliver, or mail, its sealed proposals to the address provided below.

City of Columbus Clerk Treasurer
C/o Technology Advisory Committee
City Hall
123 Washington Street
Columbus, IN 47201

2. To be assured of consideration, Proposals must be received by the City of Columbus Clerk Treasurer, located at City Hall, 123 Washington Street, Columbus, IN 47201 no later than 10:00 AM EST on 6/3/2008. The Clerk's Office can be reached at (812) 376-2510. The City of Columbus may, but is not required to accept Proposals that are not received by the date and time set forth in this section. Respondent may submit its proposal at any time prior to the above stated deadline. Failure to submit the required number of copies by this deadline may be cause for disqualification from the RFP process. The original documents must be clearly marked as "ORIGINAL", and must bear the original signature of an authorized corporate agent on all documents requiring a signature. Respondent must enclose all documents in sealed envelopes or boxes.
3. Failure by a messenger delivery service or printing service to meet the deadline will not excuse the Respondent from the deadline requirement. Personally delivered Proposals must be delivered to the City of Columbus Clerk Treasurer, located at City Hall, 123 Washington Street, Columbus, IN 47201. The time of receipt of all Proposals will be determined solely by the clock located in the Clerk's Treasurer's Office. It is the Respondent's sole responsibility to ensure that the Proposal is received as required. All submissions are subject to the Freedom of Information Act. The outside of each sealed envelope or package must be labeled as follows:

Proposal Enclosed
Columbus Utilities RFP
Due: 6/3/2008
Submitted by: *(Respondent Name)*
Package ____ of ____

4. Additionally, the Respondent must submit one (1) electronic copy of its proposal to rfp@infocommsystems.net by 10:00 AM EST on 6/3/2008. A reply message will be sent to the Respondent acknowledging receipt. Email submission alone is not representative of an official bid. Respondent must follow the sealed bid submission policy and procedures outlined above for its bid to be considered official.

5. All sealed bids received by 10:00 AM EST on 6/3/2008 will be opened in a public forum at 10:00 AM EST on 6/3/2008 at City Hall.
6. The City of Columbus reserves the right to terminate this RFP solicitation at any stage if determined to be in the best interests of the community. The receipt of Proposals or other documents will in no way obligate the City of Columbus to enter into an agreement of any kind with any party.

1.3 Additional Information & Questions

Respondent must communicate only with the City of Columbus primary contact, Brent Engle. All questions, requests for clarification or additional information must be in writing via email sent to the attention of Brent Engle at rfp@infocommsystems.net and must be received no later than 4:00 PM EST on 5/16/2008. Questions received from all Respondents will be answered and posted on the World Wide Web at <http://columbus.in.gov/TAC> by 5/20/2008. Any changes to the RFP or the RFP process will also be posted to the website as addenda. No telephone calls or emails will be accepted unless the questions are general in nature. A Respondent that deviates from any of these restrictions may be subject to immediate disqualification from this RFP process.

1.4 Addenda & Modifications

All addenda, amendments, and interpretations to this solicitation will be in writing. Any amendment or interpretation that is not in writing will not legally bind the City of Columbus. Only information supplied by the City of Columbus in writing or in this RFP should be used in preparing proposal responses. All contacts that a Respondent may have had before or after receipt of this RFP with any individuals, employees, subcontractors, consultants or representatives of the City of Columbus and any information that may have been read in any news media or seen or heard in any communication facility regarding this RFP should be disregarded in preparing responses.

The City of Columbus does not assume responsibility for the receipt of any addendum sent to the Respondent.

If it becomes necessary to revise or expand upon any part of this RFP, a notification of addendum will be posted on <http://columbus.in.gov/TAC> along with a link to download the addendum document. The City of Columbus will also email a notification of addendum to those perspective Respondents that submit their contact information (including email address) to rfp@infocommsystems.net.

The addendum may include, but will not be limited to, the following:

1. Responses to questions and requests for clarification sent via email according to the provisions of Section 1.3 herein; or

2. Responses to questions and requests for clarification raised by the deadline for submission of questions.

1.5 Examination of Documents & Requirements

Each Respondent will carefully examine all RFP documents and thoroughly familiarize themselves with all requirements prior to submitting a proposal to ensure that the proposal meets the intent of this RFP. Before submitting a proposal, each Respondent will be responsible for making all investigations and examinations necessary to ascertain conditions and requirements affecting the requirements of this RFP. Failure to make such investigations and examinations will not relieve the Respondent from the obligation to comply, in every detail, with all provisions and requirements of the RFP.

1.6 Evaluation and Selection Process

A. Proposal Evaluation

The process for selecting a Selected Respondent for this RFP will be an open, competitive and fair process.

Firms with extensive experience in constructing optical fiber infrastructure to residents and businesses consistent with the requirements defined in this RFP are encouraged to respond.

TAC will review and evaluate the Proposals, as described below.

In evaluating Proposals, TAC will first consider the completeness and responsiveness of the Respondent's Proposal. The RFP proposal evaluation process is organized into two (2) phases:

1. Phase I Preliminary Proposal Assessment
2. Phase II Proposal Evaluation

Phase I Preliminary Proposal Assessment

Phase I will involve an assessment of the Respondent's compliance with and adherence to all submittal requirements requested in Section 2.2. Proposals which are incomplete and missing key components necessary to fully evaluate the Proposal may, at the discretion of TAC, be rejected from further consideration due to "non-responsiveness" and rated Non-Responsive. Proposals providing responses to all sections will be eligible for detailed analysis in Phase II, Proposal Evaluation.

Phase II Proposal Evaluation

In Phase II, TAC will evaluate the extent to which a Respondent's proposal meets the project requirements set forth in the RFP. Phase II will include a detailed analysis of the Respondent's qualifications, experience, proposed implementation plan, and cost proposal.

As part of the evaluation process, TAC will review the information required by Section 2.2, for each Proposal received. TAC may also review any other information that is available to it, including but not limited to information gained by checking references and by investigating the Respondent's financial condition.

Columbus reserves the right to seek clarification of any information that is submitted by any Respondent in any portion of its Proposal or to request additional information at any time during the evaluation process. Any material misrepresentation made by a Respondent may void the Proposal and eliminate the Respondent from further consideration.

B. Vendor Selection

After TAC completes its review of Proposals in Phase II, it may submit a recommendation to select a Respondent proposal or a recommendation to reject any or all Proposals.

1.7 Post-Proposal Discussions with Respondent

The City of Columbus also reserves the right to make available a public meeting in which all Respondents will be invited, the purpose of the meeting will be to allow Respondents to raise an questions or seek answers to questions or issues they believe are relevant in their consideration of the RFP.

The City of Columbus intends to commence final negotiation with the Respondent(s) deemed most advantageous to community. The City of Columbus reserves the right to conduct post-proposal discussions with any Respondent(s).

1.8 Terms, Conditions, Limitations & Exceptions

1. This RFP does not commit the City of Columbus to award a contract, issue a Purchase Order, or to pay any costs incurred in the preparation of a proposal in response to this request. Furthermore, the City of Columbus will not be responsible for any costs, damages, expenses, including but not limited to, attorneys fees incurred by Respondents, member(s), partners, subcontractors or other interested parties in connection with the RFP process, including but not limited to costs associated with preparing the Proposal and/or of participating in any site visits, oral presentations or negotiations, nor any other costs incurred by Respondent related to the development of and/or submission of the information requested in this RFP.
2. The City of Columbus will not be held accountable if material from proposals is obtained without the written consent of the Respondent by parties other than the City of Columbus, at any time during the proposal evaluation process.
3. All submissions are subject to the Freedom of Information Act.

4. Respondent(s) will not offer any gratuities, favors, or anything of monetary value to any individual, employee, subcontractor, consultant or representative of the City of Columbus (including any and all members of proposal evaluation committees).
5. Respondent(s) will not collude in any manner, or engage in any practices, with any other Respondent(s), which may restrict or eliminate competition or otherwise restrain trade. This is not intended to preclude subcontracts and joint ventures for the purposes of: a) responding to this RFP, or b) establishing a project team with the required experience and/or capability to provide the goods or services specified herein.
6. All proposals submitted must be the original work product of the Respondent. The copying or paraphrasing of the work product of another Respondent is not permitted.
7. The RFP and the related responses of the Selected Respondent may by reference become part of any formal agreement between the Selected Respondent and the City of Columbus. In the event an agreement cannot be reached with the Selected Respondent, the City of Columbus reserves the right to select an alternative Respondent. The City of Columbus reserves the right to negotiate with alternative Respondent(s) the exact terms and conditions of the contract. The City of Columbus, in its sole discretion, reserves the right to refuse to contract with any and all Respondents.
8. Respondent, its authorized representatives, and its agents are responsible for obtaining, and will be deemed to have, full knowledge of the conditions, Requirements, and specifications of the RFP at the time a proposal is submitted to the City of Columbus.
9. The City of Columbus has sole discretion and reserves the right to cancel this RFP or to reject any or all proposals received prior to contract award.
10. The City of Columbus reserves the right to reject any and all Proposals that do not conform to the requirements set forth in this RFP; or that do not contain at least the information required by Section 2.2, Required Content. If no Respondent is selected through this RFP process, then the City of Columbus may utilize any other procurement method available to obtain the Services described herein.
11. The City of Columbus reserves the right to request clarification of any proposal after all proposals have been received.

1.9 Schedule

Listed on the following page are important target dates and times by which actions related to this RFP will be completed. Note that these target dates are subject to change by the City of Columbus.

Event	Date	Time
Written Questions Deadline	5/16/2008	4:00 PM EST
Responses (Answers) Posted	5/20/2008	
Sealed Bid Deadline	6/3/2008	10:00 AM EST
Official Opening of Sealed Bids	6/3/2008	10:00 AM EST
Phase I Evaluation Completion	6/6/2008	
Phase II Evaluation Completion	6/10/2008	

Table 1 – RFP Schedule

2. Proposal Format & Required Content

2.1 Proposal Format

Proposals must be prepared on 8 ½” x 11” letter size paper, printed double-sided, and bound on the long side. Sections shall be separated by labeled tabs and organized in accordance with subject matter sequence as set forth below. Each page of the Proposal must be numbered in a manner so as to be uniquely identified.

Respondents are advised to adhere to the submittal requirements of the RFP. Failure to comply with the instructions of this RFP may be cause for rejection of the noncompliant Proposal. Respondent must provide information in the appropriate areas throughout the RFP. Submission of a Proposal in response to this RFP constitutes acceptance of all requirements outlined in the RFP.

All proposals should be electronically generated and the printed original signed in ink. Legibility, clarity and completeness are important and essential.

One (1) CD-ROM or DVD-ROM containing an Adobe Portable Document Format (PDF) version of all proposal materials must also be provided.

The proposal must be signed by individual(s) legally authorized to bind the Respondent(s) and must contain a statement that the proposal and the prices and terms contained therein will remain firm for a period of one-hundred and eighty (180) days after receipt by the City of Columbus.

2.2 Required Content

A. Cover Letter of Introduction and Executive Summary

Respondent must submit a letter of introduction and an executive summary of the proposal. The letter of introduction must be signed by a person authorized by Respondent's firm to obligate your firm to make the commitments contained in the proposal. Submission of the letter will constitute a representation by the Respondent's firm that the firm is willing and able to perform the commitments contained in the proposal.

The executive summary will explain Respondent's understanding of the City's intent and objectives and how Respondent's Proposal would achieve those objectives.

Respondent's cover letter must be signed by an authorized representative of the entity committing Respondent to provide the Services as described in this RFP in accordance with the terms and conditions of any contract awarded pursuant to the RFP process. The cover letter must:

1. Indicate the number of years the entity has been in business, and provide an overview of the experience and background of the entity and its key personnel committed to this project.
2. Identify the legal name of the entity, its headquarters address, its principal place of business, its legal form (i.e., corporation, joint venture, limited partnership, etc.), and the names of its principals or partners and authority to do business in Indiana.
3. Indicate the name and telephone number(s) of the principal contact for negotiations.
4. Identify participants in Respondent's "Team." For example if Respondent is a business entity that is comprised of more than one legal participant (e.g., Respondent is a general partnership, joint venture, etc.), then Respondent must identify or cause to be identified all participants involved, respective ownership percentages, and summarize the role, degree of involvement, and experience of each participant separately. If Respondent has a prime contractor / subcontractor relationship instead, this information regarding role, involvement and experience is also required for any subcontractor that is proposed to provide a significant portion of the work.

B. Company Profile Information

Respondent must also submit a brief description of Respondent's firm which will include:

1. Name, mailing address, email address, telephone number and fax number of the primary contact person for your firm.
2. A brief description of your firm, including the number of years in business, major business lines, major markets served, company history, relevant operating segments, primary vision and strategy, number of employees, office locations and any Joint Venture Partners.
3. Respondent must furnish a resolution or some other form of authority, signed by a Chief Executive Officer, Corporate Secretary, or managing partners, which lists the specific officers who are authorized to execute agreements on behalf of the Respondent.
4. Also, as required by Exhibit A, Respondent must provide references (preferably at least 3, and preferably from municipalities on contracts of similar scope and magnitude as described in this RFP) performed by the Respondent's firm including client, reference and telephone numbers, staff members who worked on each project, budget, schedule and project summary. Descriptions should be limited to one page for each project. Experience will not be considered unless complete reference data is provided. At a minimum, the following information must be included for each client reference:
 - a. Client name, address, contact person name, email address, telephone, and fax number.

- b. Description of services provided similar to the services outlined in this RFP.
- c. Nature and extent of Respondent's involvement as the prime contractor. Identify services, if any, subcontracted, and to what other company.
- d. Total dollar value of the contract.
- e. Contract term (Start and Expiration).

The City may solicit relevant information concerning Respondent's record of past performance from previous clients, including the City of Columbus, or any other available sources.

All Respondents to this RFP expressly consent to allow the City of Columbus to obtain information from any of the Respondent's previous clients.

- 5. Describe any strategic changes your firm has undertaken in recent years, such as businesses acquired or divested, reorganizations, etc.
- 6. Describe your firm's ownership structure. Identify your firm's board of directors, indicating "inside" and "outside" members.
- 7. Describe any and all lawsuits, liens, restraining orders, consent decrees, foreclosures or other legal/financial actions either now pending, in progress or which have been brought against your firm or any of its officers/principals in the past five years. For lawsuits, include date initiated, plaintiff, description, name of court location, docket number, resolution and current status. Regarding product liability issues your firm would typically face during the normal course of business, indicate who would review these issues (e.g. corporate legal counsel, "outside" counsel, etc.) and identify what their opinion is as to your firm's exposure to product liability issues. Also regarding legal actions, Respondent must provide a listing and a brief description of all material legal actions, together with any fines and penalties, for the past 5 years in which (i) Respondent or any division, subsidiary or parent entity of Respondent, or (ii) any member, partner, etc., of Respondent if Respondent is a business entity other than a corporation, has been:
 - a. A debtor in bankruptcy; or
 - b. A plaintiff or defendant in a legal action for deficient performance under a contract or violation of a statute or related to service reliability; or
 - c. A Respondent in an administrative action for deficient performance on a project or in violation of a statute or related to service reliability; or
 - d. A defendant in any criminal action; or

- e. A named insured of an insurance policy for which the insured has paid a claim related to deficient performance under a contract or in violation of a statute or related to service reliability; or
 - f. A principal of a bond for which a surety has provided contract performance or compensation to an obligee of the bond due to deficient performance under a contract or in violation of a statute or related to service reliability; or
 - g. A defendant or Respondent in a governmental inquiry or action regarding accuracy of preparation of financial statements or disclosure documents;
 - h. Indicate whether any conflicts of interest would arise if your firm (i.e. management, key employees, large stockholders) entered into this arrangement;
 - i. Respondent must provide a summary of the professional qualifications and experience of key personnel who will be dedicated to the services described in this RFP. For each person identified, describe the following information:
 - Title and reporting responsibility;
 - Proposed role in this project, including the functions and tasks for which they will have prime responsibility (also indicate areas of secondary responsibility, if appropriate);
 - Pertinent areas of expertise and past experience;
 - Base location (local facility, as applicable); and
 - Resumes or corporate personnel profiles which describe their overall experience and expertise.
8. Respondent must provide copies of appropriate licenses or certifications required of any individual or entity performing the services described in this RFP in the City of Columbus, County of Bartholomew and State of Indiana, for itself, its partners and its subcontractors, including evidence that Respondent is authorized by the Secretary of State to do business in the State of Indiana. Provide copies with the Proposal submission.

C. Solution Description

Provide information on your firm's proposed solution to address the following:

1. A description of the solution that is being proposed to meet the Requirements stated in Section 3. Respondent will enumerate its responses according to the outline in Section 3.

D. Deployment Plan

Respondent will provide a deployment plan with high level tasks for deployment over a proposed period of time. Respondent will also describe the project management methodology that will be used to execute on the deployment plan.

1. Project Timeline

All responses should, at a minimum, reference the anticipated timeline for this project. All costs should, at a minimum, reflect the ability to meet this timeline. Respondents may, in addition, provide alternative timelines to be accompanied by an explanation of variance from the periods listed.

2. Organization Chart

Include an organization chart which clearly illustrates all firms (joint venture partners, if any, subcontractors); relationships in terms of proposed Services; and key personnel involved and the following information:

1. A chart which identifies not only the proposed organizational structure, but also key personnel by name and title. Staffing levels of each organizational unit should be estimated.
2. The specific role of each of the firms in a team or joint venture for each task/work activity must be described.

E. Dedicated Resources

1. Describe facilities, equipment, personnel, communication technologies and other resources available for implementing any proposed Services.
2. Staffing requirements. Provide an assessment of staffing needs for each major activity area by job title and function. The assessment should include fulltime equivalents for professional staff and supervisors committed to Columbus.
3. Submit resumes for key personnel that will be committed to this engagement. Correlate team members to the tasks they will be performing during implementation/transition and ongoing operations. Along with each resume, Respondent should identify each primary team member working on staff with Respondent, as well as those working in a subcontracting capacity. For each proposed key personnel, describe previous related experience and provide references including: name, address, and telephone number of contact person, and brief description of work history.

F. Insurance

1. Selected Respondent will be required to submit evidence of insurance including at least Workers Compensation and Employers Liability, Commercial General Liability, Automobile Liability, and Professional Liability.

G. Required Forms

1. Completed “Contractor’s Bid for Public Work – Form 96” prescribed by the Indiana State Board of Accounts, <http://www.in.gov/sboa/publications/forms/form96/Form96.pdf>

3. Requirements

This section outlines requirements for the construction of fiber optic cable facilities to and within the Greater Columbus Conduit System.

The materials and products specified herein reflect the minimum acceptable standards of fabrication and manufacture. All materials and products supplied by the Selected Respondent and specified herein are to be new, unused, of first quality and in original packaging or shipping containers.

The City Engineer's Office may maintain inspection personnel on the job site at their discretion. It is incumbent upon the Selected Respondent to verify that the installation and material used has been inspected before it is enclosed within building features, buried, or otherwise hidden from view. The Selected Respondent shall bear costs associated with uncovering or exposing installations or features that have not been inspected.

3.1 10th St. Innerduct Construction

1. Furnish and install three (3), one and one-quarter (1¼) inch contiguous innerducts within one (1) of the four (4) inch ducts within the Greater Conduit System starting at a handhole at 10th St. and Central Ave., continuing along 10th St. to McClure Rd., and north along McClure Rd. to a handhole located in the utility easement on the east side of McClure Rd. in front of Columbus Utilities (Figure 1 – 10th Street).

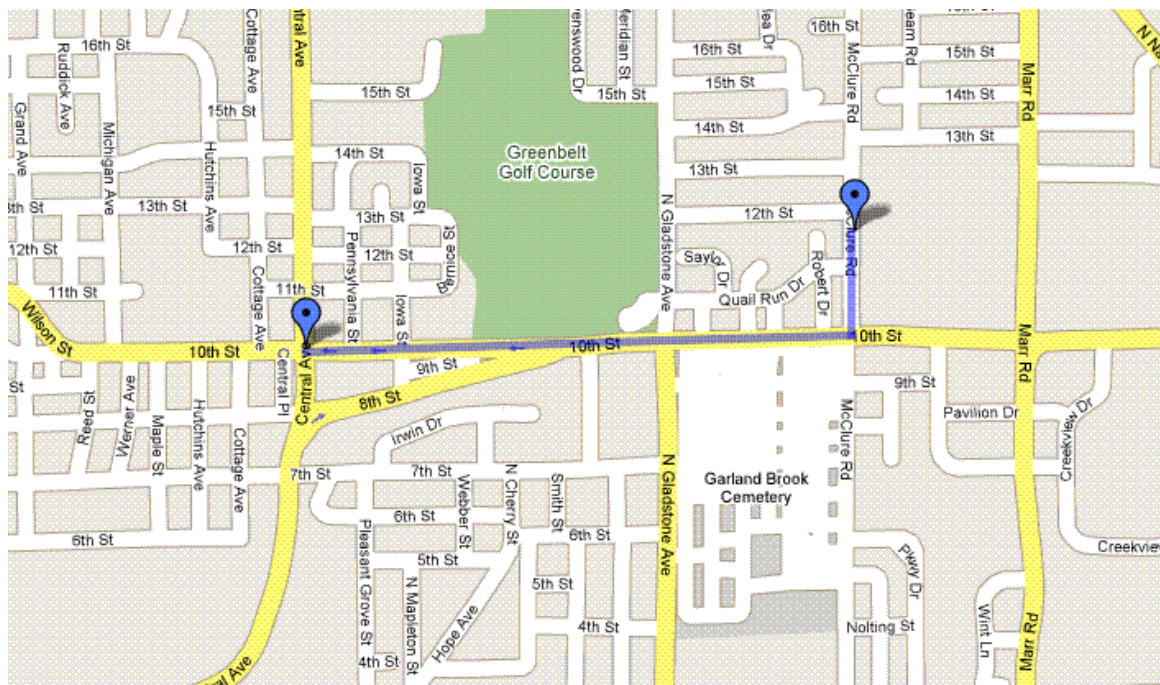


Figure 1 – 10th Street Construction

3.2 10th St. Fiber Services & Management

1. The Selected Respondent shall populate the aforementioned innerduct(s) with fiber optic cable facilities (per Section 3.4 Fiber Optic Cable with the intent to offer fiber-to-the-curb and fiber-to-the-home services to Columbus businesses and residents.
2. The Selected Respondent shall be responsible for ongoing maintenance of both the conduit and fiber contained therein to ensure that both facilities are kept in good repair – at no additional cost to the City of Columbus.
3. The Respondent shall describe in detail its maintenance plan to ensure both the conduit and fiber facilities are kept in good repair.
4. The Selected Respondent shall be responsible for repairing both the conduit and fiber contained therein in the event of damage to or destruction of conduit and/or fiber infrastructure, at no additional cost to the City of Columbus.
5. The Selected Respondent shall provide the City of Columbus with the emergency contact number of a designated point of contact for coordinating the handling of emergency repairs to affected conduit and fiber facilities and shall notify the City of Columbus of changes to such information.
6. The Respondent shall describe in detail its emergency response plan to repair a fiber cut in terms of at least the following: escalation hierarchy (with contacts), time to respond, description of response team, location of response team, qualifications of response team, mean time to repair and documentation of incident.

3.3 Columbus Utilities Fiber Construction

1. Furnish and install one (1) contiguous two (2) inch HDPE duct and populate with one (1), twelve (12) strand single-mode fiber optic cable from a Greater Columbus Conduit System handhole (Figure 2) set the in the right-of-way along the east side of McClure Rd. (directly adjacent to the Columbus Utilities facility) to a designated telecommunications demarcation point within the Columbus Utilities facility (Figure 3). Photographs of the handhole location relative to the Columbus Utilities facility are available in Appendix A of this RFP.
2. Furnish and install one (1) Corning fiber optic patch panel at the Columbus Utilities facility for termination of the twelve (12) strand single-mode fiber optic cable.
3. Furnish and connectorize with Corning SC-type connectors (per Section 3.3) and terminate the twelve (12) strand single-mode fiber optic cable in a Corning fiber patch panel at the Columbus Utilities facility.
4. Splicing of the twelve (12) strand single-mode fiber optic cable to Smithville owned fiber optic facilities at the Greater Columbus Conduit System handhole on McClure Rd. will

be the sole responsibility of Smithville Digital. Twenty (20) feet of fiber optic cable slack and splicing enclosure should be left in said handhole to support Smithville Digital splicing of this fiber optic cable.

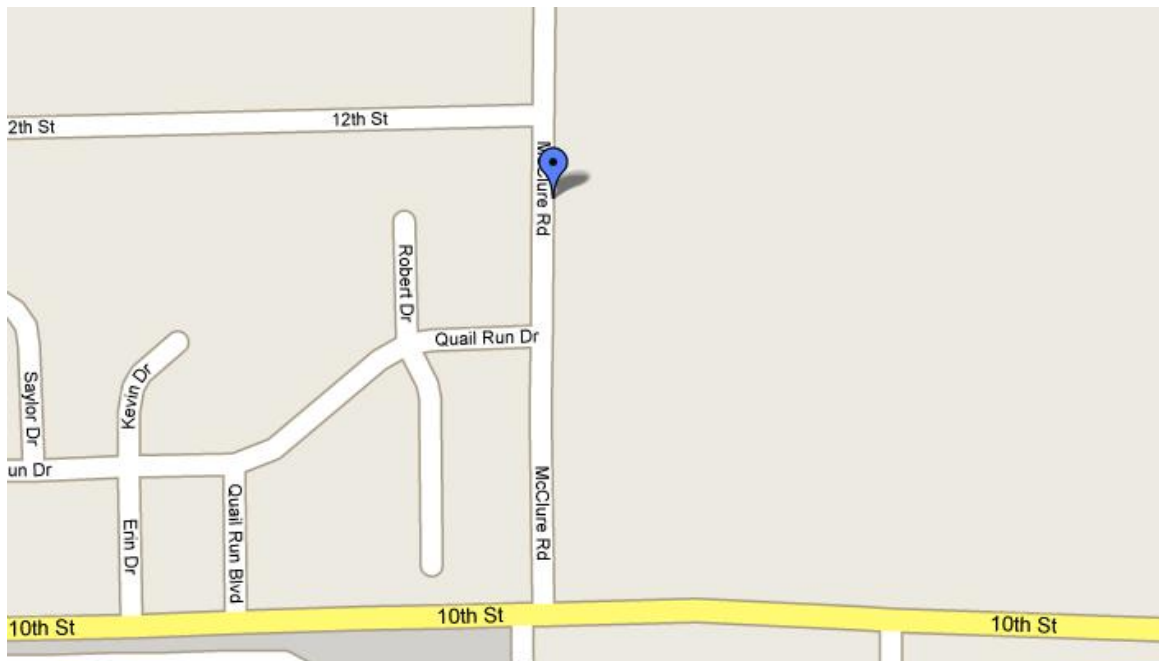


Figure 2 – Handhole Location

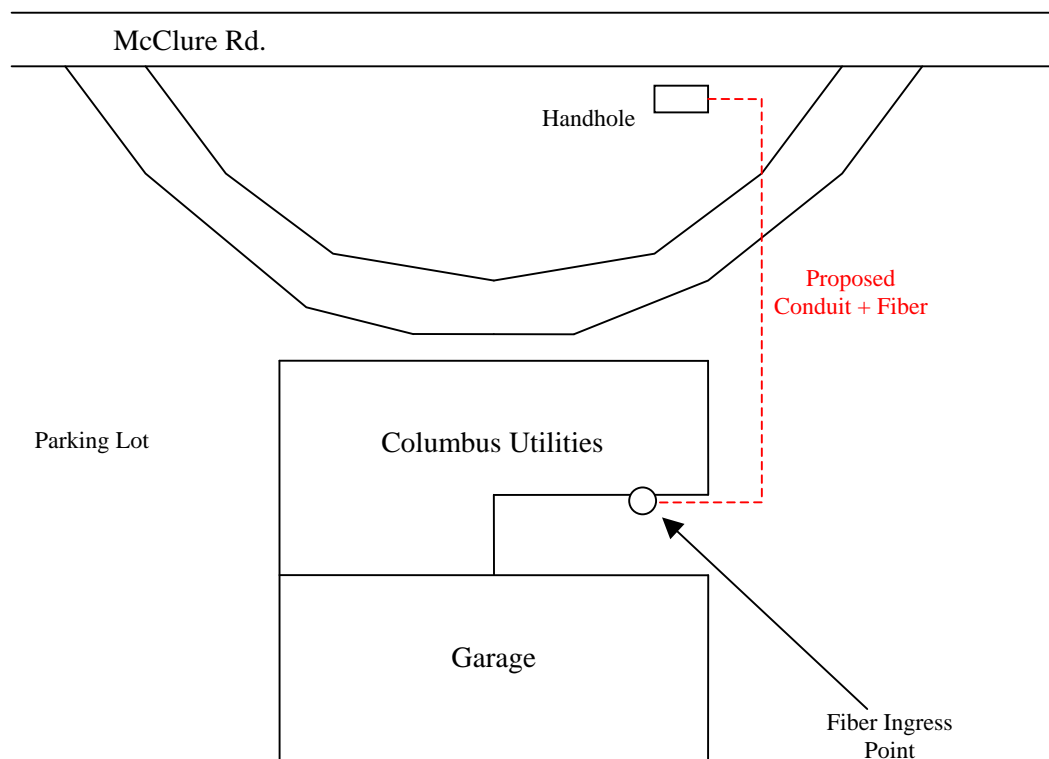


Figure 3 – Proposed Construction

3.4 Fiber Optic Cable Specifications

1. Fiber optic cable chosen by the Respondent shall adhere to the following optical standards:
 - a. 8.3µm/125µm single-mode optical fibers
 - b. Attenuation: 0.35 dB/Km @ 1310 nm; 0.25dB/km @ 1550 nm.
 - c. Mechanical construction: All dielectric fiber optic cable for installation within underground facilities. Construction shall conform to Corning ALTOS All Dielectric Cable or equivalent.
2. Sixty (60) feet of fiber optic cable slack should be left in backbone handholes to aid in future expansion from that handhole.
3. The Selected Respondent shall designate one (1) qualified party (qualifications and service record to be approved by TAC) to perform splicing, termination and testing of optical fiber cable placed in City of Columbus conduits. This trusted party may be changed only after TAC approval and review of the perspective candidate's qualifications and service record.
 - a. At all required splices in the Selected Respondent's fiber optic cable plant shall utilize fusion splicing.
 - b. Spliced fibers are to be installed within a fiber optic splice tray according to the manufacturer's specifications.

3.5 Conduit & Innerduct Specifications

1. For the underground construction requested of this RFP, the Selected Respondent shall trench one (1) contiguous two (2) inch HDPE duct from the handhole to an external demarcation point at the Columbus Utilities facility.
2. Greater Columbus Conduit System conduits utilized by the Selected Respondent shall be populated with three (3), one and one-quarter (1¼) inch innerducts, furnished and installed by the Selected Respondent, prior to fiber optic cable installation. Innerducts are to be in new and unused condition and contiguous end-to-end.
3. The Selected Respondent shall utilize innerduct sealing plugs to seal used and unused innerducts. These are to be used in conjunction with Triplex Duct Sealing Plugs.
4. The Selected Respondent shall utilize Split Triplex Duct Sealing Plugs to seal conduit(s) containing one and one-quarter (1¼) inch innerducts.

3.6 Splicing & Termination

1. The Selected Respondent shall provide all splice enclosures, termination enclosures, connectors, and fiber optic patch panels as well as all associated hardware.
2. Prior to termination, fiber optic cable strands shall be furcated (fanned out) utilizing a Corning Buffer Tube Fan-Out Kit.
3. The Selected Respondent shall terminate fibers, where specified, using SC-type connectors specified in the TIA/EIA 568A. Please include in proposed quote costs for utilizing:
 - a. A polished and Corning 95-200-42 Ultra-polished Unicam SC connector, and
 - b. A Corning factory polished pigtail that would be fusion spliced to the twenty-four (24) strand fiber optic cable for termination at a fiber patch panel.

Please include in the cost breakdown additional costs for fusion splicing and splice cases needed for the fiber patch panel if pigtails are utilized.

4. Mated-pair connector attenuation must not exceed 0.5 dB per connector; otherwise, said connector must be removed and the fiber terminated with a new connector.
5. At all required splices in the fiber optic cable plant the Selected Respondent shall utilize fusion splicing.
6. After performing the fusion splice, the splice technician shall examine each splice under a 100X power microscope. Splices with a “neck-down” (narrowing) effect, with an oversized bulge at the splice location, or which contain gas bubbles, dirt, or other aberrations shall not be acceptable.
7. The spliced fibers are to be installed within a fiber optic splice tray according to the manufacturer’s specifications.
8. The fiber optic splice closure will be sealed to be air-tight as specified by the manufacturer. Any encapsulant used shall be approved by the TAC before installation. Installation would be only after testing and acceptance. Sealed closures are to be secured to the wall of the manhole using appropriate hardware.
9. Measured attenuation through the splice is not to exceed 0.2 dB; otherwise, said splice must be broken, re-spliced and retested.

3.7 Testing

1. The Selected Respondent shall verify through bi-directional OTDR span testing the integrity of all fusion splices as well as prove end-to-end connectivity.
2. The Selected Respondent shall verify through power meter testing the attenuation of all end-to-end fiber paths. If any reading is higher than 0.10 dB over the optimal attenuation loss, the TAC must be contacted for acceptance. If the loss is not acceptable, then the Selected Respondent must re-terminate the fiber to obtain acceptable loss levels. This will be done at the Selected Respondent's expense. Records of fiber loss must be maintained and provided for system acceptance by the TAC.
3. The OTDR traces and power loss measurements will be made at 1550 nm and 1310 nm and performed bi-directionally.
4. All readings will be taken end to end (SC to SC) in both directions on every fiber terminated at both ends, without exception.
5. Fiber optic cable that is left un-terminated at one end shall be tested at the connector end using an OTDR.
6. The TAC is to be notified at least 48 hours prior to testing to allow 100% observation at their discretion. If the TAC confirms their intention to observe, a reasonable starting time will be agreed upon. Should the TAC not be present at the scheduled commencement time, the Selected Respondent may begin testing as scheduled.

3.8 Documentation

1. The Selected Respondent shall provide documentation (drawings if available) of fiber path installation. If construction drawings are not utilized, the Selected Respondent shall provide all telecommunications location information on an accurate scaled site plan.
2. The Selected Respondent shall retain the manufacturer's test data for fiber optic cable and provide it, along with OTDR test results of all installed fiber optic cable, to the TAC at the completion of the installation. Substantial completion will not be given without the final test results submitted and approved by the TAC.
3. The Selected Respondent shall provide a spreadsheet of Corning fiber patch panel fiber assignments at Columbus Utilities.
4. The Selected Respondent shall provide a Fiber Optic Cable Test Report using the format below prior to the TAC acceptance of work.

Fiber Optic Cable Test Report (Sample)						
Customer: Purdue Research Park		Building/Location: BTC				
Cable Man.& Part #: (e.g. Corning XXX-XXXX)		Job Number:				
Fiber Type: (e.g. 24 strand SM)		Loss @ 1310 nm:		0.35 dB/km		
Finished Fiber Length: (feet and meters)		Date:				
Power Meter: (e.g. Corning)		Lead Test Tech:				

Fiber ID: _____	From Bldg./Loc.	To Bldg./Loc.	Reel Test Attenuation (dB/km)	OTDR Length (Feet/ Meters)	Span Loss Benchmark Calculation (dB)	Power Meter Reading (dB)
Buffer Tube: Blue	BTC	ITC	0.35	7454/2425	2.648	N/A
1 Blue	BTC	ITC	0.35	7454/2425	2.04	2.037
2 Orange	BTC	ITC	0.34	7454/2425	2.02	2.026
3 Green	BTC	ITC	0.33	7454/2425	2.00	2.01
4 Brown	BTC	ITC	0.35	7454/2425	2.045	2.040
5 Slate	BTC	ITC	0.35	7454/2425	2.043	2.039
6 White	BTC	ITC	0.33	7454/2425	2.00	2.01
7 Red	BTC	ITC	0.34	7454/2425	2.02	2.026
8 Black	BTC	ITC	0.33	7454/2425	2.00	2.01
9 Yellow	BTC	ITC	0.34	7454/2425	2.02	2.026
10 Violet	BTC	ITC	0.35	7454/2425	2.04	2.038
11 Rose	BTC	ITC	0.33	7454/2425	2.00	2.01
12 Aqua	BTC	ITC	0.34	7454/2425	2.02	2.026
Buffer Tube: Orange	BTC	ITC	0.35	7454/2425	2.648	N/A
1 Blue	BTC	ITC	0.33	7454/2425	2.00	2.01
2 Orange	BTC	ITC	0.34	7454/2425	2.02	2.026
3 Green	BTC	ITC	0.35	7454/2425	2.04	2.040
4 Brown	BTC	ITC	0.33	7454/2425	2.00	2.01
5 Slate	BTC	ITC	0.35	7454/2425	2.04	2.038
6 White	BTC	ITC	0.33	7454/2425	2.00	2.01
7 Red	BTC	ITC	0.35	7454/2425	2.04	2.040
8 Black	BTC	ITC	0.35	7454/2425	2.04	2.039
9 Yellow	BTC	ITC	0.33	7454/2425	2.00	2.01
10 Violet	BTC	ITC	0.35	7454/2425	2.04	2.038
11 Rose	BTC	ITC	0.35	7454/2425	2.04	2.039
12 Aqua	BTC	ITC	0.35	7454/2425	2.04	2.041

Explanation of Span Loss Benchmark Calculation for this example:
 $0.35\text{dB/km} / 1000 = .00035\text{dB/m}$ ($.00035\text{dB/m} \times 2425\text{m}$) = 0.848 dB

$0.848\text{ dB} + 0.3\text{ dB (fusion splice)} + 1.5\text{ dB (mated pair connector loss (0.75dB) \times 2)} = 2.648\text{ dB}$

Figure 4 – Fiber Optic Cable Test Report Sample

3.9 Schedule

1. Construction/installation shall be completed within thirty (30) days of contract award unless otherwise stated in writing by the TAC.

Exhibit A. Company References

Respondent / Team Member Company Profile Information

Submit a completed company profile information sheet for prime, each joint venture partner and subcontractor(s), as applicable.

(1) Legal Name of Firm: _____

(2) Doing Business under Other Company Name? If yes, Name of Company: _____

(3) Headquarters Address, City, State, Zip Code: _____

(4) Web Site Address: _____

(5) Proposed Role: ☐ Prime ☐ Subcontractor/Sub-consultant
☐ Joint Venture Partner ☐ Supplier or ☐ Other: _____

(6) Number of Years in Business: _____

(7) Total Number of Employees: _____

(8) Total Annual Revenues separated by last 3 full fiscal years: _____

(9) Major Services Offered as Prime Contractor: _____

(10) Subcontracted Services: _____

(11) Briefly describe your firm's strategy and approach to providing services for a client: _____

(12) Briefly describe your firm's fiber optic facilities construction experience: _____

Appendix A. Columbus Utilities Photographs





